

Occurrence of the "Elymi" Aberrant Phenotype in *Vanessa carye* (Huebner) (Nymphalidae)

Gerardo Lamas

Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Apartado 11434, Lima-14, Perú

Abstract. A female specimen of *Vanessa carye* (Huebner) bearing the "elymi" aberrant phenotype, collected in Ancash, Perú, is reported herein. The occurrence of similar aberrant phenotypes in other species of *Vanessa* is discussed.

Natural or laboratory induced aberrant phenotypes, known as "elymi" (Shapiro, 1973, 1974), have been found in several species of *Vanessa* (*Cynthia*). The first description of this particular phenotype characterized, in the words of Shapiro (1973) "... by suppression of the discal wing pattern, fusion of the subapical dark pattern elements, and development of a series of white submarginal spots," was given by Rambur (1829) for a specimen of *cardui* Linnaeus, collected by Rambur himself near Montpellier, France, on July 5, 1827, and regarded as a new species, which he named *Vanessa elymi*. Subsequently, a number of names (listed by Field, 1971), now recognized as infrasubspecific, were bestowed on similar aberrant individuals pertaining to several other species of the genus (Table 1).

Recently, a female aberrant *Vanessa carye* (Huebner) (Fig. 1), bearing the typical "elymi" phenotype, has been collected by Enrique Pérez at



Fig. 1. Aberrant *Vanessa carye* collected in Huascarán National Park, Ancash, Peru. Upper (left) and lower surfaces. Bar = 1 cm.

Zone C of a study area in Huascarán National Park, Ancash, Peru, at 3950 melevation, on May 26, 1981. For a description of the study area see Pérez (1982).

Vanessa carye is one of the commonest butterflies on the Peruvian coast and Andes, and has an extensive distribution in South America, from NW Venezuela and Colombia in the north, to Argentina and Chile in the south. It also occurs in the Juan Fernández Islands, on Easter Island and on Mangareva Island, between Chile and New Zealand (Field, 1971). Its phenotype is extremely constant in the entire distribution area, with no tendency to form subspecies. In western Peru, it may be found from sea level to the snowline (5000 m), and occurs in a great variety of habitats, from coastal deserts to relict upper montane forests and paramos. its migratory movements in western Peru have been described by Hughes (1957, 1958). The species seems to have transient populations at Huascarán National Park, where Pérez (1982) recorded dense populations in April and May 1981, during the dry season. No specimens were seen during the wet season months of August to October.

Dimock (1968) reported the induction of "elymi" phenotypes by chilling pupae of *V. cardui*. Shapiro (1973, 1974), who performed similar experiments, considered the available evidence on pupal chilling as the causative agent for the "elymi" phenotype as inconclusive, and offered instead the hypothesis that "... wild specimens of "elymi" are produced by genes or gene combinations which alter the threshold for expression of "elymi" so that it is produced under ordinary development conditions," and that "the occurrence of the phenotype in three species [actually, six species; cf. Table 1 in this paper]... suggests that it may indeed have been

Table 1. Occurrence of "elymi" phenotypes among *Vanessa* (*Cynthia*) species.

Species	Named Aberrations
<i>cardui</i> Linnaeus	"elymi" Rambur "emielymi" Verity
<i>kershawi</i> M'Coy	none reported
<i>virginiensis</i> Drury	"ahwashtee" Fox "simmsi" Gunder
<i>altissima</i> Rosenberg & Talbot	none reported
<i>braziliensis</i> Moore	"dallasi" Koehler
<i>terpsichore</i> Philippi	none reported
<i>myrinna</i> Doubleday	"eunice" Hall
<i>annabella</i> Field	"muelleri" Letcher
<i>carye</i> Huebner	"caryoides" Giacomelli "bruchii" Koehler

a seasonal phenotype at one time in the evolution of the genes and that its expression was subsequently suppressed. . .”

Nightly frosts (“heladas”) were reported by Pérez (1982) for his study area at Huascarán during June and July 1981, well after the probable emergence time of the aberrant specimen he collected.

Prof. José Herrera of Santiago, Chile, has collected and bred some “elymi” specimens from Chilean *V. caryae*; one such individual has recently been figured by Herrera (1982: Fig. 24).

Acknowledgments. I wish to thank Enrique Pérez for the information supplied on the Huascarán National Park butterfly fauna, and the donation of the “elymi” individual to the collections of the Museo de Historia Natural, Universidad de San Marcos.

Literature Cited

- DIMOCK, T., 1968. An extreme experimental aberration of *Vanessa cardui* (Nymphalidae). *J. Lepid. Soc.* 22(3):146.
- FIELD, W. D., 1971. Butterflies of the genus *Vanessa* and of the resurrected genera *Bassaris* and *Cynthia* (Lepidoptera: Nymphalidae). *Smithson. Contrib. Zool.* 84:1-105.
- HERRERA, J., 1982. La vida silvestre: se extinguen las mariposas en Chile? *Academia (Santiago)* 3:205-223.
- HUGHES, R. A., 1957. Migratory movements of *Vanessa carye* Huebner (Lep. Nymphalidae) on the south coast of Peru. *Entomologist* 90:153-155.
- _____, 1958. Migrant butterflies along the Peruvian coast. *Entomologist* 91: 181-187.
- PEREZ, E., 1982. Ecología de las mariposas diurnas (Lepidoptera, Rhopalocera) del Sector Llanganuco, Parque Nacional Huascarán, Ancash, Peru. 80 pp. Lima, Universidad Particular Ricardo Palma, Tesis de Licenciado en Biología.
- RAMBUR, J. P., 1829. Sur plusieurs espèces de lépidoptères nouveaux du Midi de la France. *Ann. Sci. Observ.* 2(2):255-268, pls. 5-6.
- SHAPIRO, A. M., 1973. Recurrent aberration in *Cynthia annabella*. A review with four new records (Lepidoptera: Nymphalidae). *Pan-Pac. Entom.* 49(4):289-293.
- _____, 1974. Natural and laboratory occurrence of “elymi” phenotypes in *Cynthia cardui* (Nymphalidae). *J. Res. Lepid.* 13(1):57-62.